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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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OCTOBER 1991

SUMMARY

Following September's increase—which had been the first in a year—October's total deliveries also rose. But, as in September, the month's 2.0 percent higher level was mostly the result of even weaker deliveries a year ago, rather than of any special strength this year. On a seasonally-adjusted basis, recent months' deliveries, while up from the low levels of this year's first quarter, have shown only modest growth, if at all—we estimate on the order of 1 percent, at best, at an annualized rate.

The story for individual products has been similar. Gasoline, though up slightly year to year, has shown little if any growth in recent months on a seasonally-adjusted basis. And consumption indicators for distillate fuel oil suggest that most of the 7.4 percent, year-to-year increase for October was the combined result of above-trend deliveries this October and depressed deliveries a year ago. Residual fuel oil deliveries, though up more than 14 percent from low year-ago levels, were still down nearly 10 percent from the same month two years ago—and roughly in line with the longer-term decline trend of the last several years for that product.

Meanwhile, October's imports, though up 9.4 percent over imports a year ago—which had been depressed by weak demand and greater reliance on the drawdown of domestic inventories following the cutoff of supplies from Iraq and Kuwait—dipped in comparison to more recent months' levels. One month's figures, however, sometimes obscure longer-term trends in imports. Excluding the first quarter, when imports had temporarily dipped to less than 7 million B/D, imports so far this year have averaged about 8 million B/D—about the same level as underlying requirements, net of temporary stock movements, prior to the Persian Gulf crisis.

Domestic crude oil production dropped 1.9 percent in October, with declines in both the lower 48 and Alaska from particularly strong levels a year ago. Recent production levels have also been down from those earlier in the year, suggesting that crude oil production's decline prior to the Persian Gulf crisis may have resumed in recent months. Indicators of upstream activity have largely been negative in recent months, with seismic exploration, drilling, and well servicing all down from prior levels.

Refinery activity slackened in October, with input to distillation units slipping to 13.1 million B/D from levels near 14 million B/D over the June-September period. Refinery input was still up half a percent from a year ago, however, and emphasis on distillate production resulted in a 4.4 percent year-to-year increase in output of that product. Distillate stocks ended the month at 136 million barrels, nearly equal to the year-ago level and higher than for the three Octobers prior to that.

PRODUCT SUPPLIED [1]

Gasoline

UP YEAR-TO-YEAR, BUT LITTLE SIGN OF CONSUMPTION GROWTH. October's gasoline deliveries, though not particularly strong, were still up a marginal 0.7 percent from even weaker levels a year ago. The rise was substantially less than September's somewhat surprising jump of nearly 5 percent. Aside from September's unusually large increase, the trend in gasoline deliveries over the past half year, when viewed on a month-to-month, seasonally-adjusted basis, has shown little if any consistent upward direction.

Data on miles traveled have been strengthening only marginally for the most recent months available. Highway travel in August was up 1.4 percent, year to year, only slightly more than in prior months. If trends earlier this year have continued more recently, October's increase in miles traveled, even compared against the weakening trend of a year ago, would still have been up only 2 to 3 percent, year to year—and mostly because of the dip in travel a year ago. Taking into account continued increases in fleet fuel efficiency, this would translate into roughly flat consumption versus a year earlier. The continued weakness in highway travel contrasts with growth rates of from 4 to 5 percent in 1988 and 1989 and 3 percent in the first half of last year.

Though some demand incentive for gasoline may have been provided by lower retail prices in October—down 2 to 3 cents, on average, from September and more than 20 percent, inflation-adjusted, from a year ago—the sluggishness of the economic recovery continues to dampen gasoline consumption. It is true that preliminary estimates of GNP showed growth of 2.4 percent

API ESTIMATES

	OCTOBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.3	2.0	16.6	(2.5)
Crude production[2]	7.4	(1.9)	7.4	0.5
Total imports[3]	7.3	9.4	7.6	(7.4)
Stocks (million bbl)[4]	1,068	(1.6)	na	na

for the third quarter, but this is on the basis of annualized, quarter-to-quarter changes.

Without the adjustment to annual rates, the third quarter GNP estimate was up only about half a percent from the second quarter—and still down from a year ago by about half a percent. The impact of short-term swings in economic growth tend to have less than a one-to-one effect on gasoline demand, but these figures nevertheless help to explain why underlying gasoline demand has continued to be weak.

Distillates

DELIVERIES JUMP, BUT CONSUMPTION LIKELY FLAT. Contrasting assumptions regarding non-primary inventory patterns this October versus last may help explain the month's 218 thousand B/D, 7.4 percent, increase in distillate deliveries. High and declining prices during October 1990 likely discouraged non-primary distillate inventory builds. This year, however, with lower prices and lower interest rates, the costs and risks to marketers and consumers of holding inventories were considerably lower. These factors may help explain why delivery growth was above estimated growth in underlying consumption, which is believed to have been about flat during October.

Storage capacity outside the primary distribution system is believed to be larger, as a share both of total storage capacity and of demand, for distillate fuels than for other light products. Based on estimates from the National Petroleum Council, nonprimary storage capacity represents about 20 percent of total storage capacity, and 2-3 weeks of average annualized jet kerosine demand; and for gasoline, it accounts for about 30 percent of total storage capacity, and some 4 weeks of average demand.

In the case of distillate fuel oil, however, the inventory capacity of marketers and consumers represents more than 50 percent of the total storage capacity, and more than 13 weeks of average annualized demand. It is easy to see how perturbations in nonprimary inventory patterns can influence year-to-year comparisons of distillate deliveries; a deliveries increase on the order of that seen in October could be fully explained by an increase in nonprimary inventory builds equivalent to only about 2.5 percent of nonprimary capacity.

Beneath October's growth in deliveries, demand indicators continue to be mixed—essentially flat on a year-to-year basis, although up perhaps 3 percent on a seasonally-adjusted basis, from early in the year. Rail demand appears to have been up 1-2 percent, year to year, but was offset by slight estimated declines in highway usage. Heating demand was likely up only modestly; while the number of heating degree days was up more than 10 percent in the Northeast from a year ago, that number was still more than 10 percent below the long-term average.

Residual Fuel Oil

UP 14 PERCENT FROM DEPRESSED YEAR-AGO LEVELS. Despite weak electricity demand, residual fuel deliveries surged more than 14 percent, year to year, in October—their largest such increase in over two years. However, as was the case last month, and could be the case at least through the remainder of the year, this growth results more from weak deliveries a year ago than from underlying strength in consumption during the month. October's deliveries were still down nearly 10 percent from the same month two years ago.

In the summer months (because of limits on some natural gas pipeline capacity, particularly in Florida) and in the winter months (because of the diversion of natural gas supplies to residential and commercial customers), utilities tend to satisfy more of their incremental demand with resid-fired units, making weather an important influence on underlying demand. In the fall and in the spring, however, with surplus deliverability of natural gas, and with electricity demand generally lower, there is more flexibility in other baseload generating units. Consequently, the link between weather and resid burn tends to be weaker. Moderate weather during October helped keep electricity generation essentially unchanged versus last year; coupled with weak industrial output (and thus weak industrial gas demand), there are thought to have been plentiful gas supplies for utilities, offsetting, in part, the impact of more competitive resid prices this year versus last.

Resid bunker markets no doubt benefited from October's 630 thousand B/D or so, year-to-year increase in water-borne imports. However, general economic weakness likely kept other merchandise imports and exports in check.

Kerosine Jet Fuel

TRAFFIC GRADUALLY STRENGTHENING. Despite climbing to their highest monthly level thus far in 1991, jet kerosine deliveries, at more than 1.38 million B/D, were down 1.6 percent from the same month a year ago, when growing commercial demand and surging military-related consumption (by both military and commercial aircraft) helped push deliveries near record levels. During October, commercial air travel paralleled movement in jet kerosine deliveries; miles flown, continuing to pick up on a seasonally-adjusted basis from levels during the first quarter, are estimated to more or less have matched year-ago levels during the month. Total military demand was no doubt lower than a year ago, but more favorable prices likely encouraged some nonprimary stock builds, and perhaps stimulated demand outside the aviation sector.

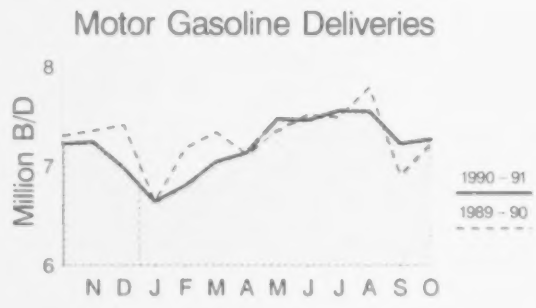
While October has traditionally been only an average month for air travel—ranking behind all summer months—it has been a relatively strong month so far as jet fuel deliveries are concerned—ranking ahead of all summer months. Stock building at the nonprimary level (in anticipation of the November-December holiday travel season) provides one explanation. But, since total nonprimary inventory capacity is thought to represent only 2-3 weeks of forward demand, it is doubtful stock builds by the aviation sector provide the full explanation.

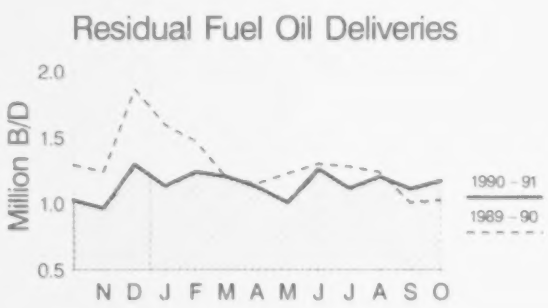
In addition to aviation use, jet fuel is used by marketers as a blendstock, particularly in the north, to lower the cloud point of diesel fuel, and is used by electric utilities to fire peak generation units. Thus, factors such as the weather and the price of jet fuel relative to number 2 fuel oil tend to play an increased role in jet kerosine markets during the fall and winter months. With jet fuel production typically high (paralleling increased production of heating fuel) and aviation demand typically in the average range, the spread between spot jet fuel prices and spot distillate prices is often low during the fall. Weather conditions were relatively moderate this October, tempering non-aviation demand; however, the spot price spread, fluctuating between 1-2 cents/gallon, was low compared to 3-4 cents/gallon seen during the summer, and was particularly low compared to the 20-25 cents/gallon spread seen last year amid Operation Desert Shield.

Often overlooked, because they are relatively small and relatively stable, are deliveries of naphtha jet fuel, used primarily by the U.S. military. Averaging 195-225 thousand B/D every year from 1973 and 1989, these deliveries fell to 182 thousand B/D last year, and have dipped further, averaging 175 thousand B/D over the first ten months of 1991. The 159 thousand B/D rate for October was particularly low. The drop is thought to reflect adjustments in military inventories as well as an overall scaling back by U.S. bases in use of jet fuels. The Air Force is planning to switch, at some point, from JP-4 (naphtha) to JP-8 (kerosine) aviation fuels. Thus far, however, only insignificant conversions have taken place. The timetable for conversion of most facilities has yet to be announced, and once announced, is not expected to begin for at least two years.

Other Oils

UP 1 PERCENT FOR THE MONTH. Reversing the declines of the prior two months, deliveries of "other oils" rose 1.0 percent for October. For the second and third quarters, deliveries had declined about 2 percent, year to year, but against the drop in deliveries in last year's fourth quarter, the current trend in year-to-year deliveries growth appears to be one of slight increases. The contrast with the year-to-year decreases of the past two quarters, as with other products, is mainly the result of shifts in year-ago deliveries.





SUPPLY[1]

Production

OUTPUT SLIPS FROM LEVELS EARLIER THIS YEAR. Despite reaching a 6-month high of close to 7.4 million B/D during October, U.S. crude production was down, year to year, by 146 thousand B/D, or 1.9 percent. Declines of 2.5 percent for Alaska and 1.7 percent for the lower 48 resulted in part from comparisons against particularly strong levels a year ago when (as a result of higher oil prices and the completion of summer Alaskan facility enhancements) domestic production witnessed its first year-to-year growth in four and a half years. Nonetheless, evidence over the past several months does suggest that production declines, both in Alaska and the lower 48, temporarily suspended following the Iraqi invasion, may have resumed in recent months.

Indicators of activity that would add to existing production remain lackluster. The number of rigs actively searching for oil and gas at the end of October was down more than 30 percent, year to year. While declines in natural gas drilling, resulting from low gas prices, help explain much of the overall rig drop, the number of rigs searching for oil has fallen sharply as well. At month's end, that number, at 432, was more than 70 rigs lower than at the end of June, and nearly 190 lower than the same time a year ago. Well servicing activity continues to decline as well, down 20 percent from its most recent peak last December. And the most recent figures on U.S. seismic crew activity were at the lowest level in at least 17 years.

Imports

TREND NEARS PRE-CRISIS LEVEL. Short-term fluctuations in imports sometimes make it difficult to discern the trend when one month's figures—such as October's—are taken in isolation. For example, October's total imports jumped 9.4 percent over the year-ago level, which had been depressed to one of the lowest levels in three years by weak demand and increased reliance on the drawdown of domestic stocks following the cutoff of supplies

from Iraq and Kuwait. But, when compared with more recent levels averaging over 8 million B/D, October's imports of 7.3 million B/D were down measurably.

Thus, a slightly longer perspective is sometimes more informative than a single month's figure. Prior to the Persian Gulf crisis, total imports had averaged about 8 million B/D in 1989, and would have continued at somewhere near that level in the first half of 1990 had there not been a substantial stock build which temporarily pushed imports up to 8.5 million B/D. During the crisis, imports dropped to an average of less than 7 million B/D, in part because of substantial draws on domestic stocks. Since then, imports began to recover to prior levels. Excluding this year's first quarter, imports have been averaging about 8 million B/D—roughly the same level as underlying import requirements immediately prior to the crisis.

Meanwhile, product imports, which had averaged 2.2-2.3 million B/D during the year-and-a-half prior to the Iraq/Kuwait crisis, dipped to 1.5 million B/D by this year's first quarter (the result of weaker domestic demand and shifts in foreign supply/demand related to the Persian Gulf developments), and for the past seven months have recovered to an average of about 1.9 million B/D.

For October, product imports of 1.7 million B/D were up 14 percent from a year ago, but down from the nearly 2 million B/D levels of August and September. The month's imports of residual fuel oil were up by more than a third, year to year, to about 520 thousand B/D. Imports of finished gasoline and kerosine jet fuel, at about 190 and 50 thousand B/D, respectively, were similar to year-ago levels, while distillate imports rose about 20 thousand B/D to close to 210 thousand B/D.

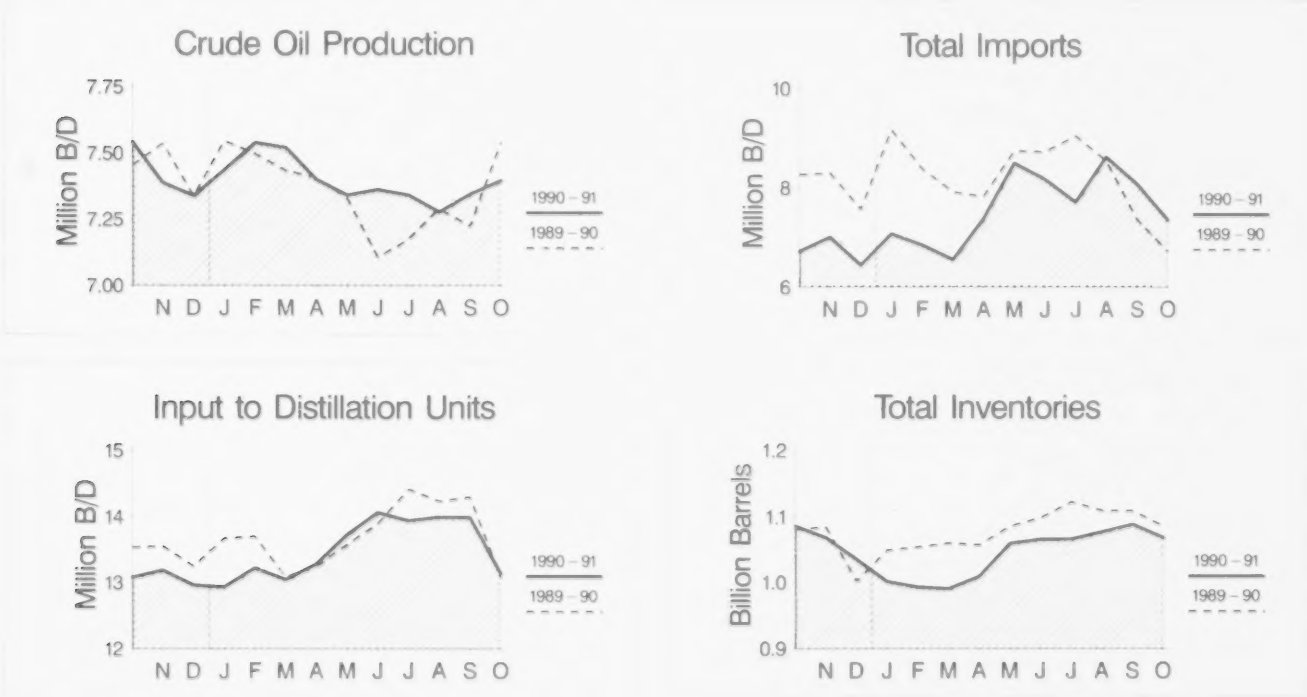
Refinery Operations

DISTILLATE OUTPUT JUMPS 4.4 PERCENT.

Refinery activity slowed in October from earlier months. Input to distillation units, after running near 14 million B/D since June, slackened to 13.1 million B/D, though it was still up half a percent from a year ago.

The emphasis on distillate production continued in October, with output of that product up 4.4 percent over a year ago to 3.06 million B/D—the highest for October in more than ten years. meanwhile, production of kerosine jet fuel was down over 1 percent from the all-time monthly high of nearly 1.5 million B/D reached last October, when military demand was bolstering deliveries. October's gasoline output was roughly even with a year ago.

Utilization of capacity in operation averaged 86-87 percent in October—down from about 92 percent for September but about equal to the year-ago level. On the basis of reported capacity, utilization was calculated at 83.6 percent for the month.



1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 569 million barrels as of October 31, 1991).

Inventories

DISTILLATE STOCKS HIGHER THAN IN MOST RECENT OCTOBERS. Total stocks declined 20 million barrels in October, compared with an average decline for the month in recent prior years of 8 million barrels. Crude inventories, however, rose 4 million barrels to 343 million barrels, nearly equal to the year ago level.

Gasoline stocks typically fall during October as the seasonal decline in refinery output between its summer and winter peaks exceeds the seasonal dropoff in gasoline deliveries. This October, gasoline stocks declined 11 million barrels to 204 million barrels, a level low in comparison to typical levels of the last several years.

Distillate stocks, which also often dip slightly in October for similar reasons, slipped 2 million barrels during the month. At 136 million barrels, they were roughly equal to year-ago levels and higher than the levels of the three Octobers prior to that.

According to Department of Energy data, U.S. propane stocks near the end of October, at 52 million barrels, were down about 3 million barrels from a year ago. However, the year-to-year decline was primarily the result of a 6 million barrel drop in the Gulf Coast region (PAD III), where propane is principally a petrochemical feedstock. In the main residential and commercial markets, stocks where equal to or higher than year-ago levels—on the East Coast, stocks matched year-ago levels, and in the Midwest, they were 4 million barrels higher.

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	OCTOBER			YEAR-TO-DATE		
	1991/1	1990/2	% Change	1991/3R	1990/2	% Change
Products Supplied:						
Total motor gasoline	7,273	7,226	0.7	7,223	7,260	(0.5)
Finished leaded motor gasoline/*	282	343	(17.8)	276	406	(32.0)
Finished unleaded motor gasoline/*	6,991	6,883	1.6	6,947	6,854	1.4
Naphtha-jet	159	179	(11.2)	175	181	(3.3)
Kerosine-jet	1,384	1,406	(1.6)	1,293	1,334	(3.1)
Distillate fuel oil	3,178	2,960	7.4	2,921	3,034	(3.7)
Residual fuel oil	1,174	1,026	14.4	1,158	1,248	(7.2)
All other oils/4	4,354	4,310	1.0	4,124	4,138	(0.3)
Reclassified/5	-243	-172	41.3	-261	-127	105.5
Total domestic products supplied	17,279	16,935	2.0	16,633	17,068	(2.5)
Exports	900	949	(5.2)	1,000	800	25.0
Total products supplied	18,179	17,884	1.6	17,633	17,868	(1.3)
Supply:						
Domestic production:						
Crude oil/6	7,396	7,542	(1.9)	7,394	7,354	0.5
Natural gas liquids	1,698	1,667	1.9	1,656	1,541	7.5
Other supply/7	1,085	1,198	(9.4)	1,058	1,001	5.7
Total domestic supply	10,179	10,407	(2.2)	10,108	9,896	2.1
Imports:						
Crude oil, total/8	5,539	5,132	7.9	5,842	6,073	(3.8)
Canadian	559	636	(12.1)	716	635	12.8
Other	4,980	4,496	10.8	5,126	5,438	(5.7)
Products, total	1,810	1,585	14.2	1,791	2,174	(17.6)
Residual fuel oil	519	383	35.5	449	517	(13.2)
Other	1,291	1,202	7.4	1,342	1,657	(19.0)
Total imports	7,349	6,717	9.4	7,633	8,247	(7.4)
Total supply	17,528	17,124	2.4	17,741	18,143	(2.2)
Stock change, all oils	-651	-760	******	108	275	******
Refinery Operations						
Input to crude oil distillation units	13,135	13,076	0.5	13,584	13,718	(1.0)
Operable capacity	15,708	15,666	0.3	15,752	15,616	0.9
Refinery utilization (%)/9	83.6	83.5	0.1	86.2	87.8	(1.8)
Crude oil runs	13,003	12,825	1.4	13,341	13,526	(1.4)

Stocks (millions bbls.)	1991		1990/2	% Change from	
	Oct. 31/10	Sep. 31/10	Oct. 31	Previous month	Year Ago
Crude oil/8	342.9	338.8	346.3	1.2	(1.0)
Unfinished oils	108.7	109.6	103.5	(0.8)	5.0
Total motor gasoline/**	204.3	215.3	220.0	(5.1)	(7.1)
Finished leaded motor gasoline/*	5.8	6.9	10.5	(15.9)	(44.8)
Finished unleaded motor gasoline/*	161.4	170.3	169.7	(5.2)	(4.9)
Naphtha-jet	5.1	5.0	6.2	2.0	(17.7)
Kerosine-jet	43.6	45.8	44.9	(4.8)	(2.9)
Distillate fuel oil	135.6	137.4	136.3	(1.3)	(0.5)
Residual fuel oil	46.6	47.8	49.3	(2.5)	(5.5)
All other oils	180.8	188.1R	178.6	(3.9)	1.2
Total all oils	1,067.6	1,087.8R	1,085.1	(1.9)	(1.6)

/1 Based on API estimated data converted to a monthly basis.
/2 Source: U.S. Department of Energy.
/3 January-August, DOE, September-October, API.
/4 Includes crude losses.
/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.
/6 API estimate; includes lease condensate.
/7 Includes Unaccounted-for crude oil, which will reflect withdrawls from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol.
/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".
/10 Derived by interpolating API weekly stocks data.
/R Revised.
/* Included in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.